

Irish Deep-Water Coral Research

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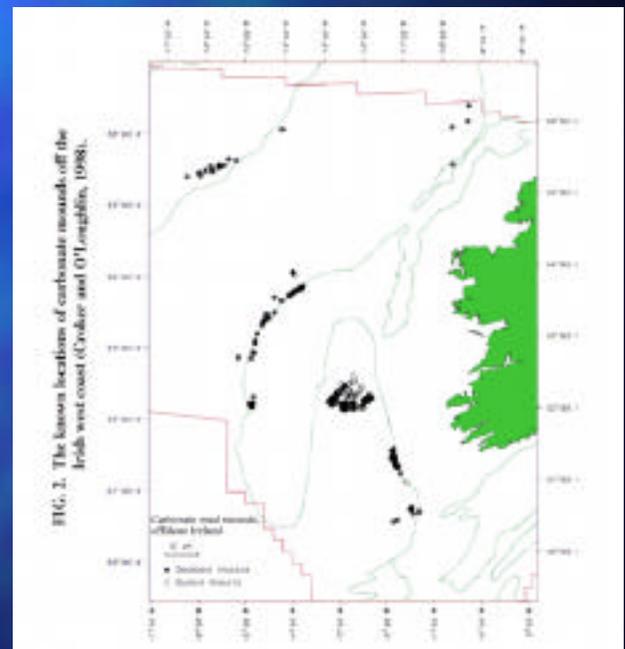
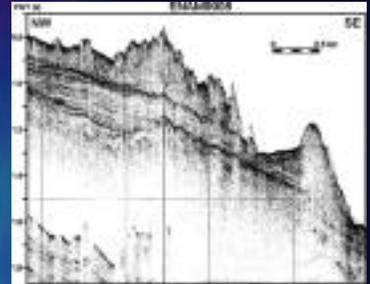
Andy Wheeler

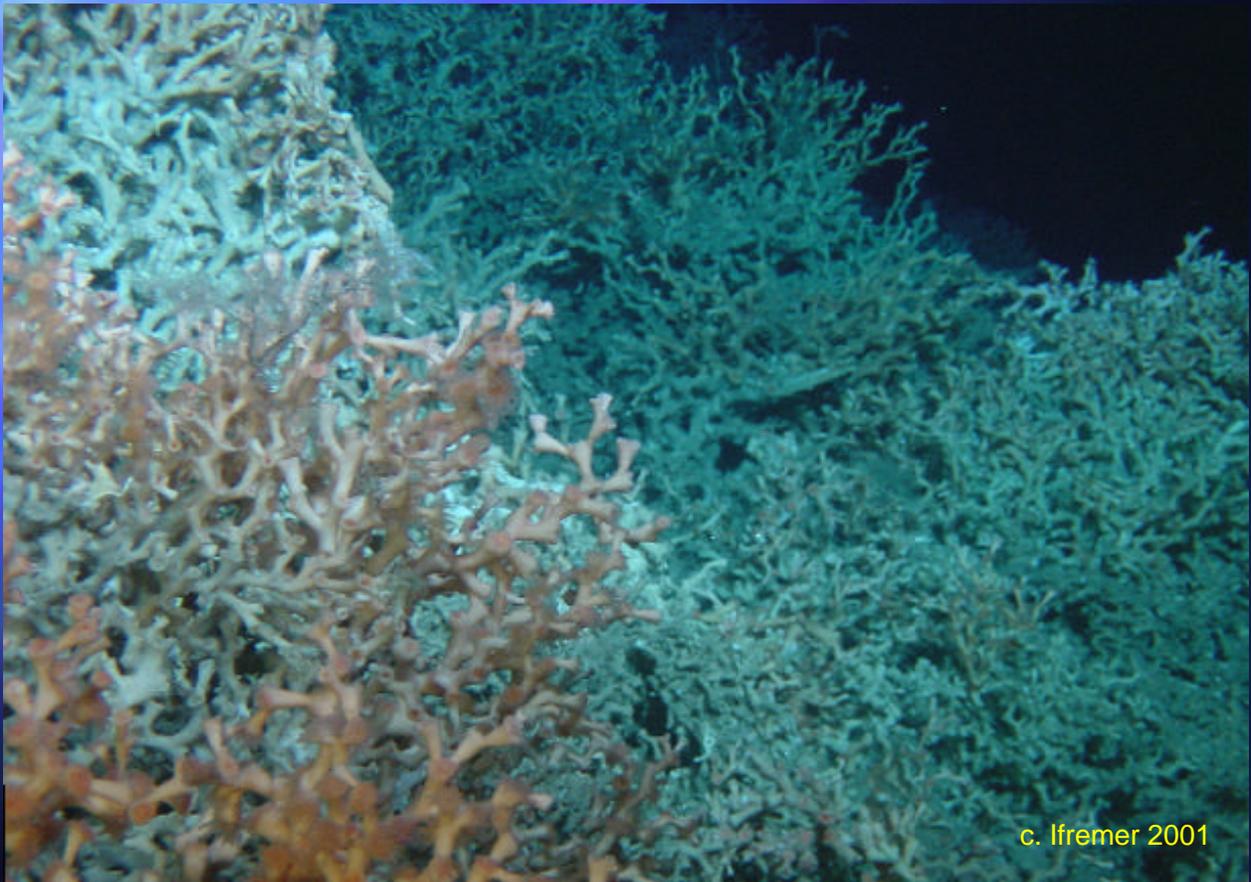
John Joyce

Deep Water Coral Meeting, Tampa, November, 2002

Lophelia Reefs and Giant Carbonate Mounds

- Of European importance with >60% of known NE Atlantic Lophelia records in Irish waters
- Irish reefs inextricably linked with giant carbonate mounds
- Four main study areas
- EU 5FP Collaboration
 - Geomound/Ecomound
 - ACES





c. Ifremer 2001

Deep Water Coral Meeting, Tampa, November, 2002



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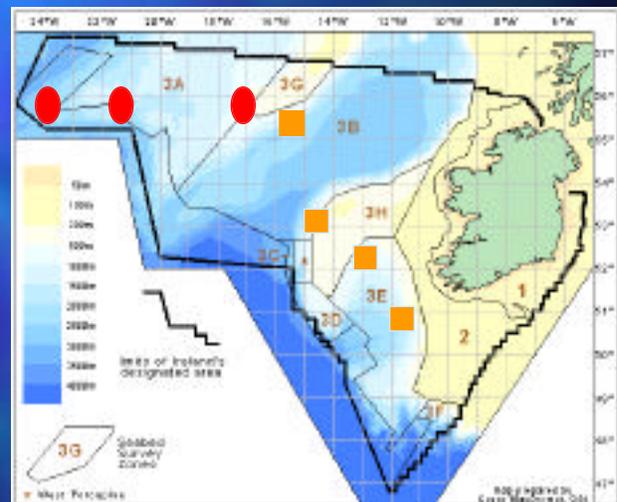


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Ireland has an extensive underwater resource

- Zone 3 of National Seabed Survey complete = 450,000 sq km
- New mound provinces identified
- Completely **UNEXPLORED** !
- Several interesting new targets including 120 km long ridge (reef?) system.



Mapping

- **Acoustics** (UCC/UCD)
 - SSS/TOBI/MB
- **Sediment coring** (UCC)
 - Stratigraphy
- **Optical** (NUIG/UCC/UCD)
 - ROV/Towed video
 - Drop camera

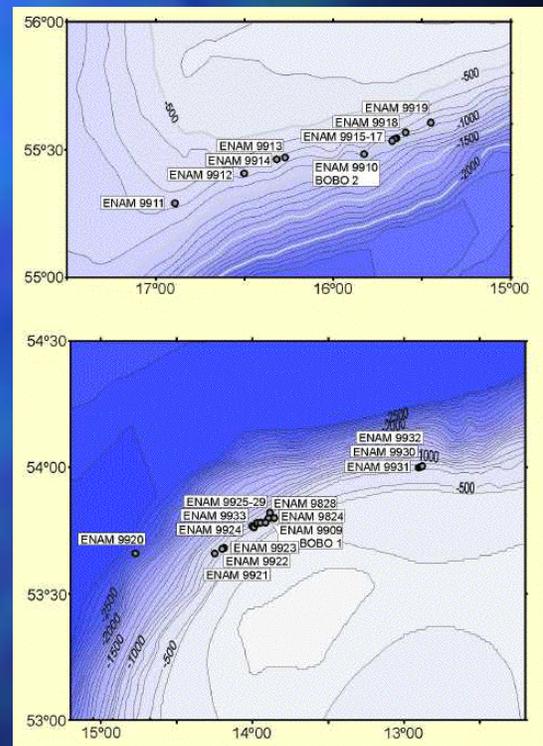


Physical oceanography/BBL Transfer

- **Basin scale circulation (NUIG)**
 - CTD/Moorings/Modelling
 - Water mass boundaries

- **Local hydrography (NUIG)**
 - Moorings/BOBO lander
 - Tidal oscillation

- **Organic matter characterisation**
 - SAPS
 - Biogeochemistry
 - Microbiology (NUIG)



Coral reef ecology

- Reef biodiversity
 - Sponges/general (NUIG)
 - Fish (Ecoserve)
- Food web relationships
 - Stable isotope analysis
 - Gut content analysis
 - Resource partitioning by mound biota (NUIG)
- Aquarium studies (NUIG)



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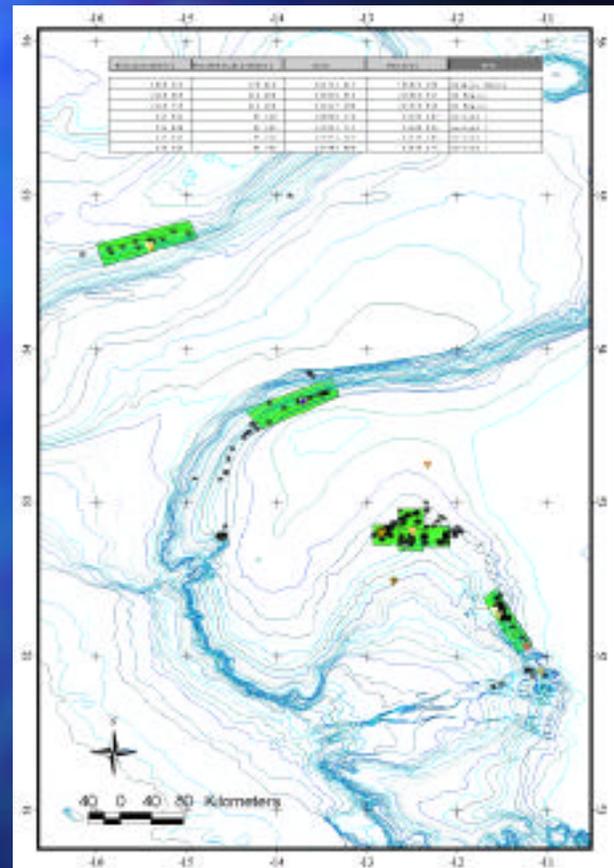
Irish Coral Task Force (2001-)

- **Resource Management Agencies**
 - Marine Institute
 - BIM - Irish Fisheries Development Agency
 - Geological Survey
 - Dept. of Transport, Natural and Marine Resources
 - Petroleum Affairs Division
- **Enforcement/Compliance**
 - Irish Naval Service
- **Conservation Agencies**
 - Heritage Council
 - Dúchas
- **EU 5FP/University Research Scientists**
 - ACES
 - Ecomound
 - Geomound
- **Marine Legal Experts**
 - Marine Centre, NUIG



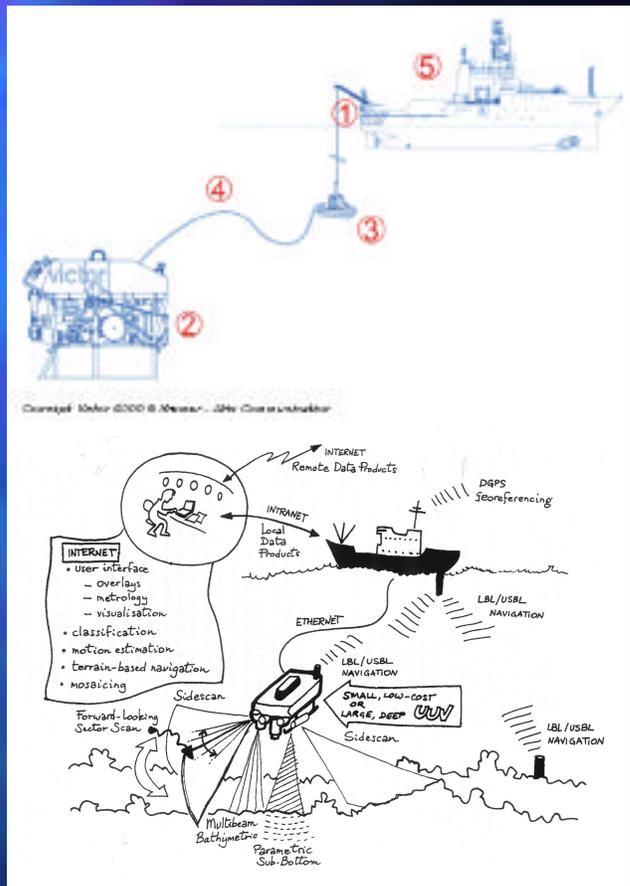
SAC Designation

- Coral Task Force Objectives
 - Gather scientific evidence of coral damage
 - Identify legal instruments to conserve corals
 - Present recommendations to policy makers
- Duchas (Heritage Agency)
 - SAC designation begun
 - Where?
 - How big?
 - Science justification?



2003 Activities

- AWI 'Victor' cruise
 - Porcupine Seabight
 - Rockall Trough
 - August
- NUIG HEA Cycle III
 - New Ocean Mapping and Modelling Group - Adding value to the Seabed Survey
- EU 5FP AMASON
 - Advanced sonar and video mapping



Future Research Priorities

■ Corals

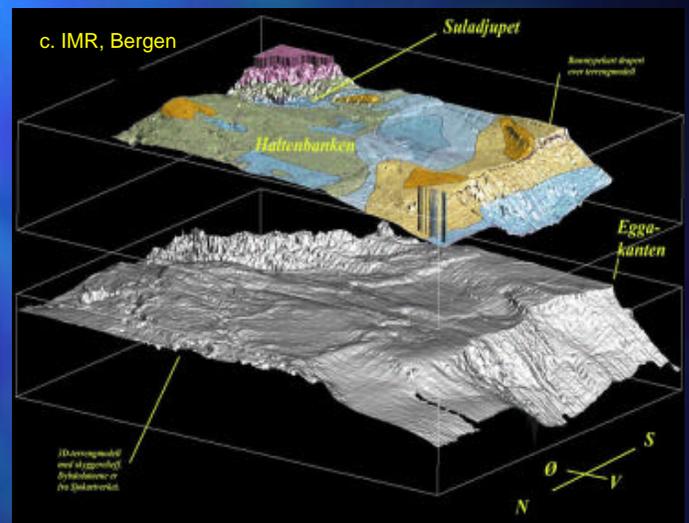
- Habitat Mapping
- SAC Management
- Biodiversity/biotechnology
- ESF/no-take zone benefits

■ Integrated ocean mgt

- Spatial activity zoning
- Integration of fisheries and conservation management

■ Capacity Building

- Celtic Explorer
- Robotics/acoustics



Scope for Collaboration

- European Union 6FP
 - International collaboration welcome
- Ireland
 - Outer Zone 3 Targets
 - Marine Institute Strategic RTDI
 - NOAA Ocean Explorer Programme
 - NUIG HEA III Project

